Data Sheet (Cat.No.TMAC-03221)

Anti-Phospho-GSK3A/B (Tyr216/279) Antibody (3N852)

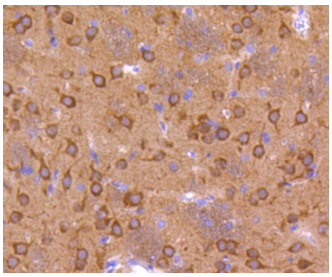
Product Details

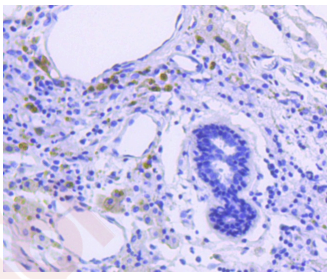
Ig Type:	IgG
Reactivity:	Human,Mouse,Rat
Conjugation:	Unconjugated
Molecular Weight:	Theoretical: 51 kDa.
Clone:	3N852
Purification:	ProA affinity purified

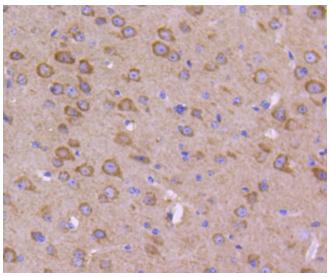
Applications

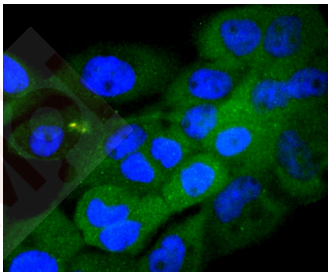
Verified Activity:

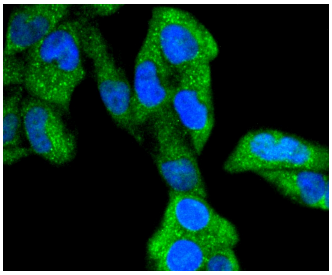
1. Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-Phospho-GSK3 (alpha+beta) (Y216+Y279) antibody. Counter stained with hematoxylin.
2. Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using anti-Phospho-GSK3 (alpha+beta) (Y216+Y279) antibody. Counter stained with hematoxylin.
3. Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-Phospho-GSK3 (alpha+beta) (Y216+Y279) antibody. Counter stained with hematoxylin.
4. ICC staining Phospho-GSK3 (alpha+beta) (Y216+Y279) in A431 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
5. ICC staining Phospho-GSK3 (alpha+beta) (Y216+Y279) in Hela cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
6. ICC staining Phospho-GSK3 (alpha+beta) (Y216+Y279) in MCF-7 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

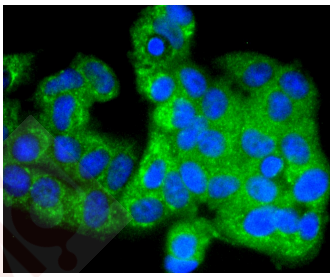












Application:	ICC,IHC,IP,WB
Recommended	WB: 1:1000; IHC: 1:50-200; ICC: 1:100-500

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthesized phosphopeptide: human GSK3(alpha+beta) around the phosphorylation site of Tyr216 and 279
Antigen Species:	Human
Uniprot ID:	P49840 & P49841
Synonyms:	Serine/threonine protein kinase GSK3A;GSK3A/GSK3B (p-Tyr216, 279);p-GSK3A/GSK3B (Tyr216, 279);Glycogen synthase kinase-3 alpha;Phospho-GSK3A/GSK3B (Y216, 279);p-GSK3A/GSK3B (Y216, 279);Glycogen synthase kinase 3 alpha;GSK3A/GSK3B (p-Y216, 279);GSK-3 alpha;GSK 3A;Gsk3a;GSK3alpha;DKFZp686D0638;GSK 3 alpha

Research Background

Glycogen synthase kinase-3α (GSK-3α) and GSK-3β are highly similar isoforms of serine/threonine kinases that regulate metabolic enzymes and transcription factors, which are responsible for coordinating processes such as glycogen synthesis and cell adhesion. GSK-3β activity is also required for nuclear activity of Rel dimers, which mediate an apoptotic response to TNFα in mice. GSK-3 catalytic kinase activity is controlled through differential phosphorylation of serine/threonine residues, which have an inhibitory effect, and tyrosine residues, which have an activating effect. Growth factor stimulation of mammalian cells expressing GSK-3α and GSK-3β induces phosphorylation of Ser 21 and Ser 9, respectively, through a phosphatidylinositol 3-kinase (PI 3-K)-protein kinase B (PKB)-dependent pathway, thereby enhancing proliferative signals. Additionally, GSK-3 physically associates with cAMP-dependent protein kinase A (PKA), which phosphorylates Ser 21 of GSK-3α or Ser 9 of GSK-3β and inactivates both forms. GSK-3α/β is positively regulated by phosphorylation on Tyr 279 and Tyr 216, respectively. Activated GSK-3α/β participates in energy metabolism, neuronal cell development, and body pattern formation. Tyrosine dephosphorylation of GSK-3 is involved in its extracellular signal-dependent inactivation.

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